

Determinants of CSER practices for reducing greenhouse gas emissions: From the perspectives of administrative managers in tour operators

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HIGHLIGHTS

- Builds the measurement of CSER practices focusing on reducing GHG emissions.
- Uses an extended TPB model to probe the determinants of low-emission CSER practices of tour operators.
- Stresses the importance of collaboration between practitioners and governments.

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ABSTRACT

Responsible corporate action has long been recognized as a vital step toward sustainability. Recently, this notion has also been introduced in tourism practices. Consequently, researchers have gradually become involved in exploring how tourism CSER is practiced, what might motivate it, and the relationship between financial performance and accredited actions. However, studies have primarily focused on the hospitality, airline, and cruise industries, and been geographically limited to Europe and North America. In order to fill this research gap, this study measures Taiwanese tour operators' CSER activeness in reducing GHG emission according to a comprehensive set of items ranging from firm operation to destination management. Particularly, an extended TPB model has been employed to examine significant predictors of CSER performance, from the perspective of administrative managers. The findings indicate that managers' attitudes regarding the benefits to the society and company interests are the most important predictors of business operations, supply chain, and destination management in CSER practices, respectively. The age of tourism business also plays an important role. This study contributes to the theoretical enhancement of CSER and TPB. Also, several practical suggestions are proposed in this study that will enhance the CSER profiles of tour operators.

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1. Introduction

Corporate Social and Environmental Responsibility (CSER) has become a leading concept for industries seeking to integrate responsible policies and practices into their business routines, such as using green products and services (Egri & Ralston, 2008). This

notion has also been employed in the tourism industry to mitigate the negative impacts of travel on natural and social environments (Dodds & Kuehnel, 2010), particularly through the encouragement of responsible corporate actions and a balanced focus on social and environmental issues (Kasim, 2006; Nicolau, 2008). Numerous studies have examined the motivation for and determinants of responsible corporate actions and investigated various corporations' green performance from different perspectives (Bansal & Roth, 2000; Lynes & Andrachuk, 2008; Mair & Jago, 2010). Empirical studies include airlines' green actions within the context of

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climate change (Cowper-Smith & de Grosbois, 2011), corporations' discretionary responsible behavior within the U.K. conference sector (Whitfield & Dioko, 2012), and sustainable actions in the general tourism industry (Frey & George, 2010; Sheldon & Park, 2011). Furthermore, the hospitality and cruise industries have become the most popular research areas in the tourism sector, with Bohdanowicz and Zientara (2008), Garay and Font (2012), and others investigating the former, and de Grosbois (2011), Font, Guix, and Bonilla-Priego (2016), and others examining the latter. However, tour operation has been relatively neglected, except for the earlier work of Dodds and Kuehnelt (2010). Since tour operators play a central role connecting tourists to tourism sites by designing, organizing, packaging, marketing, and operating tourism resources (Sigala, 2008), they act as a major stakeholder and could be instrumental in leading the industry toward sustainability and the implementation of CSER.

Although CSER practices in the tourism sector are globally significant, most of the studies on this topic have focused on Western states such as Canada, the U.S., and various European countries (Dodds & Kuehnelt, 2010; Van der Duim & Van Marwijk, 2006). It is essential, then, to also explore the practices of tour operators in countries with newly emerging tourism industries. These countries have, in recent decades, increasingly contributed to global environmental degradation (Hussein, 2008; Salequzzaman & Stocker, 2001). Taiwan, one such country, is enjoying a growing tourism market and a rapid increase in the flow of international tourists; their numbers tripled between 2005 and 2015 (Tourism Bureau MOTC Taiwan, 2016). At the same time, Taiwanese society has been troubled by scandals of corporate misbehavior, such as with expired food products, illegal ingredients added to manufactured items, abuse and destruction of natural resources, and water and air pollution from immoral manufacturers. As a result, many Taiwanese enterprises are now quick to clarify their position by responsibly engaging in CSER reporting. Other areas of the tourism sector have always been inclined to endorse green tourism activities, but engage with CSER to a relatively lesser degree.

Some tourism scholars have proposed theoretical frameworks for exploring the reasons for pursuing CSER (Lynes & Andrachuk, 2008; Mair & Jago, 2010), while others have discussed its relationship to corporate financial performance and economic, social, and environmental outcomes (Font et al., 2016; Garay & Font, 2012). However, these studies did not focus on the perspectives of administrative managers, a topic that is considered vital to CSER implementation (Lynes & Andrachuk, 2008). The efficacy of the Theory of Planned behavior (TPB) has been verified in studies of pro-environmental behaviors (Cordano & Frieze, 2000; Sparks & Shepherd, 1992) and the tourism field (Han & Kim, 2010; Han, 2015; Han, Hsu, & Sheu, 2010; Kaplan, Manca, Nielsen, & Prato, 2015; Lam & Hsu, 2004, 2006; Lee & Back, 2009). However, to the best of our knowledge, there is as yet no study that employs the TPB framework to examine the associations among managers' perceptions of CSER, the socio-demographics of those managers, and tour companies' responsible sustainable actions.

To address these research gaps, this study extended the TPB model to include the psychological factors of managers and company operation characters to examine how these elements might affect tour operators' implementation of CSER practices. The most important contribution of this research is that it explores CSER practices in a comprehensive manner (from three different aspects), and investigates GHG emissions and tour operators' green performance in the emerging Taiwanese tourism industry. Additionally, this study will enhance the theoretical foundation and practical meaning of both CSER and TPB.

2. Literature review and research hypothesis

2.1. Low emissions policies and practices in Taiwan

Reducing GHG emissions has become a major environmental concern in the field of international tourism governance, especially considering that 5% of global GHG emissions are attributable to the leisure and tourism sector. Tourism businesses are now actively targeted to implement climate change practices and mitigation measures, particularly after the Paris Agreement. Taiwan, a country noted for its high-profile development in eastern Asia, has regularly been compared to Japan and South Korea, though they are approximately 10 and 2.5 times the size of Taiwan, respectively. Yet in 2014, these countries had total CO₂ emissions of just 5 and 2 times that of Taiwan, respectively. Taiwan maintains relatively high levels of emissions, approximately 276,675 Ktons, ranking it 24th highest in the world. In addition, Taiwanese society faces other unavoidable environmental issues such as increasing energy demands and levels of pollution. Accordingly, in the last decade the Taiwanese government has initiated a variety of low-carbon measures to underscore national policy on carbon neutrality and climate change mitigation. Moreover, sustainable tourism has been highlighted as an especially important low-emissions measure, particularly in the face of Taiwan's growing tourism market and rapid increase in international tourists; the number of visitors tripled between 2005 and 2015 (Tourism Bureau MOTC Taiwan, 2016).

Consequently, GHG reduction has been incorporated into CSER or CSR in government policies and enterprise practices in the last ten years. There is evidence of the Taiwanese EPA's collaboration with businesses (EPA, 2014a; 2014b), distribution of annual CSR awards (Global View Magazine, 2017), and CSR benchmark efforts. In 2014, the EPA published the Publicly Available Specification (PAS-2060) and Specification for the Demonstration of Carbon Neutrality as guidelines for implementing GHG reductions in Taiwanese enterprises (EPA, 2014b). These guidelines encourage manufacturers and businesses such as AU Optronics Corp. and TXC Corporation to execute green initiatives for low-carbon sustainability. In addition, pursuing low-emissions solutions has been emphasized by a variety of NPOs to promote sustainable business in Taiwan. One example is the annual CSR awards mechanism operated by Global View Magazine (GVM). As one of longest-standing CSR awards, GVM began selecting the best CSR implementations in three categories (i.e., high technology, traditional manufacturing, and the service industry) in 2005. These were recategorized into working environment, environmental protection, societal concerns, charity, and education in 2011; in 2014, sustainable management and small/medium enterprises (SME) were added (Global View Magazine, 2017).

The CSR award trend illustrates the growing emphasis on environmental sustainability in the CSR scheme in Taiwan. Enterprises receiving past awards have shown mainstream implementations of low-carbon and energy-smart answers within the context of climate change, as well as reuse and recycle actions. Fang, Huang, and Huang (2010) found that Taiwanese culture (i.e., highlighting energy conservation, social justice, and Lifestyle of Health and Sustainability (LOHAS)) and company values are mutually shaped by the CSR performances of benchmark enterprises. Larger enterprises with more than 500 employees were the main receivers of GVM CSR awards, despite the new SME category that has been in place since 2014. This is reflected in some researchers' assertion that more than 50% of the SMEs in Taiwan expressed unwillingness to engage with CSR, due to lack of

resources or doubts regarding the financial effects (Hsu & Cheng, 2012). These researchers suggested that the most important drivers of CSR willingness are managers' personal values and support, as well as the current corporate culture. Interestingly, the tourism and hospitality industry has been noticeably absent in the GVM CSR awards. Therefore, it seems even more urgent to understand how CSER practices fit with tourism businesses, and particularly SEMs, especially when societal pressure on corporate responsibility and low GHG emissions is on the rise in Taiwan. Key issues such as managers' values, attitudes, and intentions toward CSER are worthwhile topics of discussion for the future promotion of low emissions policies in Taiwan.

2.2. CSER and climatically sustainable tourism operation

Corporate Social Responsibility (CSR), which incorporates stakeholder theory, is an important concept that encourages businesses to voluntarily improve upon regulatory requirements and contribute positively to sustainability through acts of social responsibility (Torugsa, O'Donohue, & Hecker, 2012). CSR reporting is a growing phenomenon, particularly with regards to its environmental component (Font et al., 2016). Scholars of sustainable tourism regard "climate" as a vital factor of destination management, and thus CSR has been identified as central to tour operators moving toward environmentally sustainable tourism (Coles, Fenclova, & Dinan, 2013; Wells, Manika, Gregory-Smith, Taheri, & McCowlen, 2015). For instance, the United Nations Environmental Programme (UNEP) has developed a framework entitled "Climate Change Adaptation and Mitigation in the Tourism Sector: Frameworks, Tools, and Practices" to promote CSR concepts.

Similar to CSR, which includes social goals and associated environmental achievements, CSER is considered an appropriate term for the current popular academic practice of finding balance between both foci (Lund-Thomsen, 2004). Therefore, some scholars have used CSER to explore the predictors of balanced foci and social and environmental responsibility (Lund-Thomsen, 2004; Lynes & Andrachuk, 2008). A company that has implemented CSER is one that feels strongly responsible for providing society with economic, social, and environmental benefits (Falck & Heblich, 2007; Lund-Thomsen, 2004; Lynes & Andrachuk, 2008).

Tourism CSER generally falls within the category of responsible tourism and is practiced through the provision of green products and services (Dodds & Kuehnel, 2010). In addition, the tourism CSER guidelines published by the UNEP Tour Operators' Initiative (TOI) and *Global Reporting Initiatives* (2002) established several criteria for measuring the sustainable actions of tour operators in terms of their business operation, supply chain management, customer relations, and cooperation with surrounding communities. These criteria have been utilized to evaluate the effectiveness of CSER practices (Dodds & Kuehnel, 2010; Van de Mosselaer, van der Duim, & van Wijk, 2012). Van de Mosselaer et al. (2012) examined the CSER practices of Dutch tour operators from three perspectives: firm, supply chain, and holiday destination. Many assessments of CSER performances are based on self-reporting or self-disclosure of practical criteria in multiple dimensions, and CSER reporting activities have become a trend in business development (Font et al., 2016).

To reduce the carbon footprint associated with tourism activities, tour operators are now called upon to take a critical role in tourism services. Responsible tourism, which seeks to reduce tourism's environmental impact, can be traced back to the 1960s and 70s when the environment first became a public concern (Buckley, 2012; Pforr, 2001). This led to tourism businesses recognizing the importance of responsible action (Bramwell &

Lane, 2000). After the fourth assessment report of the International Panel on Climate Change (IPCC) was published in 2007, it was suggested that tour operators engage in more responsible practices with regards to reducing GHG emissions through a combination of green transportation, accommodations, food services, tourism marketing, office management, and tourist education (Kane, 2010; Simpson, Gossling, Scott, Hall, & Gladin, 2008; The International Ecotourism Society, 2010). However, when CSER actions were addressed by the tourism industry, mostly by hotels and airlines, the relevant practices essential to a reduction in GHG emissions were relatively neglected. Particularly, given the importance of the effect of climate change on the development of the tourism industry, the CSER practices that tour operators should primarily be engaging in to mitigate climate change requires additional study (Lee, Park, & Klassen, 2015; Sullivan, 2009). This research is extremely important to forming a better understanding of tour operators' CSER practices, and especially their shift toward environmentally sustainable tourism through reducing GHG emissions.

2.3. Theory of Planned Behavior

Understanding the determinants of behavior is crucial to understanding the decision-making process (Chen, 2008). The Theory of Planned Behavior (TPB) is considered a robust means of predicting actions (Ajzen, 1991; Chatzoglou & Vraimaki, 2009). Extended from the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980) and one of the most widely used rational-choice models, TPB has generally been proven to be an effective psychological framework for conceptualizing, measuring, and testing the psychological factors that determine decision making regarding engaging in particular behaviors (Chen, 2008). The TPB proposes that behavior is influenced by personal attitudes toward and perceptions of control over that behavior, and subjective norms (Ajzen, 1991). Attitudes regarding the behavior are formed when individuals evaluate whether others feel favorably or unfavorably about the possible outcomes of such actions. Subjective norms incentivize individuals to comply with the referents' (friends, partners, family, and other important people) approval or disapproval by applying social pressure. The most important contribution of TPB is that it argues for Perceived Behavioral Control (PBC) to be considered as illustrative of the constraints perceived by actors on actions in situations where behaviors are not completely under volitional control (Armitage & Conner, 2001). Similar to self-efficacy, PBC explains why individuals do not perform certain behaviors within particular contextual barriers, due to physical difficulties or because of limits in opportunities or available resources. The inclusion of PBC addresses capabilities and challenges, while attitudes and norms are more associated with rewards. In general, people with favorable attitudes, supportive subjective norms, and strong PBC are more likely to have robust intentions connected to particular behaviors (Ajzen, 1991).

Since the 1990s, TPB has been widely applied to environmental activities. Most researchers have explored the effects of attitudes, subjective norms, and PBC on recycling and waste management practices (Boldero, 1995; Cheung, Chan, & Wong, 1999; Guagnano, Stern, & Dietz, 1995; Stern, Dietz, Kalof, & Guagnano, 1995; Taylor & Todd, 1995) and demonstrated the usefulness of TPB in explaining individuals' activities and habits related to the environment. A few studies tested the potential application of TPB to organizations and found that attitudes and other psychological variables had a significant impact on managers' environment-related actions (Cordano & Frieze, 2000; Pouta & Rekola, 2001).

TPB has also received considerable attention from tourism and leisure scholars as a means of conceptualizing psychological factors

(Jackson, 2007; Kapalan et al., 2015; Song, Lee, Norman, & Han, 2012). For example, the relationship between attitude and leisure behavior (i.e., mountain climbing, spending time at the beach, jogging, biking, and boating) was found to be significant (Ajzen & Driver, 1991). Kapalan et al. (2015) suggested that favorable attitudes and social norms related to cycling are connected to tourists' frequent and multi-purpose cycling intentions. Han and Kim (2010) found that attitudes, PBC, and subjective norms significantly affect customers' intention to stay at green hotels. Moreover, Han (2015) connected the functions of all three of these factors to travelers' intentions in a green lodging context.

For managers of tour companies, attitudes, subjective norms, and PBC with regards to implementing CSER practices are particularly relevant to company-oriented benefits and limits, and important stakeholders (Maon, Lindgreen, & Swaen, 2009). First, managers' attitudes regarding how CSER might benefit society and the company is a prerequisite for proactive CSER. The economic benefits for corporations manifest as increases in revenue and improved financial performance (Sheldon & Park, 2011) through improvements to the brand image, reputation, market position, qualifications and morale of employees, relationship of the firm to customers and other stakeholders, and reduced operating costs from the implementation of eco-efficient processes (Bohdanowicz & Zientara, 2008; Dodds & Kuehnel, 2010; Lynes & Andrachuk, 2008). Responsible corporate actions are primarily motivated by the perception that CSER performance will help companies gain political advantages such as reduced regulations and the relaxation of government control, benefits for which they frequently lobby the government (Buckley, 2010; Gossling, 2010). In a social context, CSER practices are widely favored for ethical and moral reasons, and as acts of "good citizenship" that improve society and help maintain a healthy environment (Dodds & Kuehnel, 2010; Sheldon & Park, 2011).

The subjective norms to which tour company managers respond are closely related to the primary stakeholders, such as consumers and the governments. Ayuso (2006) asserted that consumer preference focused social pressure on service suppliers to be more socially and environmentally responsible. Political leadership, government regulations, and government incentives have all proven effective for encouraging corporations to meet the social and environmental requirements of suppliers; this is primarily attributable to the effects of market competition (Bansal & Roth, 2000; Lynes & Andrachuk, 2008; Sheldon & Park, 2011). Society would be greatly influenced by media broadcasts on climate change and environmental issues, social justice, and cultural conflicts, which turns to encourage company managers to take CSER actions (Mair & Jago, 2010).

PBC is also of considerable concern to management-level staff when businesses need to change their means of operation and offer the market new products. For the tourism industry, the main constraints on the implementation of CSER initiatives are time, cost, financial resources, and the lack of skilled employees (Sheldon & Park, 2011). If managers perceive stronger control over such barriers, there is a higher likelihood that they will become actively engaged in implementing CSER actions.

Although TPB theory seems a feasible framework for exploring the pro-environmental behavior of individuals, little attention has been paid to how this psychological model is applicable to CSER practices from the perspectives of company managers. Based on the past literature on this topic, this research attempts to utilize the TPB model in examining CSER performances and proposes the following hypotheses:

H1. Attitudes toward CSER significantly affect CSER practices related to reducing GHG emissions.

H2. Subjective norms significantly affect CSER practices related to reducing GHG emissions.

H3. Perceived levels of behavioral control significantly affect CSER practices related to reducing GHG emissions.

2.4. Companies' socio-demographic and operational characteristics

The importance of individuals' socio-demographic characteristics to predicting the likelihood of environmental activism is a topic that has been heavily studied (Hunter, Hatch, & Johnson, 2004; Kapalan et al., 2015; Marquart-Pyatt, 2012; Olofsson & Öhman, 2006). Generally, these personal characteristics include education, gender, and age. It is also likely, then, that the socio-demographic characteristics of the managers of tour companies would influence how they lead their staff to implement CSER initiatives.

Beyond the leadership, the CSER practices of tourism businesses are also likely to be affected by their company's characteristics. For instance, some tourism scholars have noted that larger corporations are more likely to adopt CSER policies (Bohdanowicz & Zientara, 2008; Sheldon & Park, 2011; Van Wijk & Persoon, 2006), while others have argued that smaller and medium-sized firms or SMEs may more easily find support for their policies among their employees (Carey, Gountas, & Gilbert, 1997). Moreover, it is likely that tenure is also a main factor in the pro-environmental behavior of individuals because the longer residents live in a particular community, the stronger their place attachment. Similarly, the number of years a business is in operation is likely to be related with the improved sense of place. It also could affect managers' levels of knowledge regarding the skills to maintain environmentally sustainable operations. A wide range of research into environmental attitudes and behaviors in the fields of tourism and resource management have identified knowledge as the most significant driver of pro-environmental behavior (Cook & Ma, 2014; Séguin, Pelletier, & Hunsley, 1999; Thapa, Graefeb, & Meyer, 2005; Van Kerkhoff & Lebel, 2006; Yang & Wu, 2012).

The TPB models used in this study have been extended to add factors related to socio-demographics, experiences, and levels of knowledge, in order to explore individuals' environmental behaviors (Kapalan et al., 2015; Marquart-Pyatt, 2012); however, few studies have attempted to incorporate business characteristics into the model to investigate managers' attitudes, subjective norms, PBC, and pro-environmental performance. Following suggestions from the existing literature on this topic, this study has developed the following additional research hypotheses:

H4. Socio-demographics and corporate characteristics significantly affect attitudes regarding CSER.

H5. Socio-demographics and corporate characteristics significantly affect subjective norms.

H6. Socio-demographics and corporate characteristics significantly affect Perceived Behavioral Control.

H7. Socio-demographics and corporate characteristics significantly affect CSER practices related to reducing GHG emissions.

3. Methods

3.1. Conceptual framework

This study applied an extended TPB as a framework (see Fig. 1) for examining sustainable tourism operation in Taiwan. According to the TPB, behavior is determined by personal attitudes toward and control over that behavior, and subjective norms (Ajzen, 1991).

Within the context of sustainable tourism operation, the industry's attitudes toward, subjective norms about, and perceived behavioral control over CSER practices all positively influence their CSER implementation relevant to reducing GHG emissions.

Socio-demographics and the corporation's characteristics (e.g., age; category of operation; and gender, age, and education of the manager) were all added to the extended TPB model. The purpose was to determine whether tourism subindustries might have negative attitudes toward, low levels of social support for, and strong barriers to implementing sustainable tourism operations, and whether these issues are caused by the unique characteristics of tour companies in Taiwan, such as SME, short tenure, and young age of manager-level officials. First, these characteristics might have a direct impact on the attitudes, subjective norms, levels of perceived behavioral control, and CSER practices (business operation, supply chain, and destination management). Based on the literature review, the direction of the relationship between these characteristics and TPB factors should be positive, because the older and larger the company and the greater the likelihood of mature and well-educated managers, stronger the attitude; higher the subjective norm; and better the perception of behavioral control toward practicing CSER. Also, these managerial and corporate characteristics directly lead to better CSER performance in a reduction of GHG emissions. Second, socio-demographics and the corporation's characteristics indirectly influence CSER practices through TPB factors, based on direct associations among the TPB factors and CSER practices. The proposed conceptual framework was developed to investigate the research hypotheses outlined in Fig. 1.

3.2. Data collection

The setting for this study was Taiwan, a country with very rapid tourism growth in recent years. International visits have tripled from 3.3 million in 2005 to 10 million in 2015, an increase of 203% (Tourism Bureau MOTC Taiwan, 2016). Travel agencies in Taiwan also serve as tour operators (i.e., they design, organize, package, market, and operate holiday leisure programs and tours) and provide tourism-related services. Questionnaires were distributed to 1724 registered travel agencies in northern Taiwan through a mixed method of door-to-door visits, snowballing, and telephone interviews; incentive gifts were also distributed. In total, 552 agencies completed and returned the survey, a 32% rate of response.

3.3. Variables and measurements

The survey questions were used to collect information about CSER practices, attitudes toward CSER in general, subjective norms,

PBC, and the socio-demographics of tour operators. For each construct, this study selected observed variables or items based on their theoretical relevance and appearance in previous research, and modified them in accordance with the advice of seven experts recruited from travel agencies and universities (see Table 2). All of the variables and items were examined via a reliability test with the CFA results (see Table 2).

This research focused on three aspects of CSER: business operation, supply chain management, and destination administration to reduce GHG emissions. Managers of tour companies were asked to self-report the company's performance with regards to these items, with the response format including: no plan to implement in the near future (1), plan to implement soon (2), and already implemented (3). **Business operation** was measured by six items asking companies about their operations within the business. A reliability analysis for these six items resulted in an acceptable Cronbach's α of 0.71. **Supply chain** was examined by a nine-item subscale asking companies about their supply chain management while conducting tours. The Cronbach's α of these nine items was 0.87, indicating a good internal consistency. **Destination management** was measured by eight items asking companies about their tour operations' contributions to tourist destinations. The reliability test for these items showed a Cronbach's α of 0.82, representing a good internal consistency.

Attitudes toward CSER practices was measured by two dimensions: recognition that implementing CSER procedures would benefit the company and society. Attitudes related to the company were represented by eight items (Cronbach's $\alpha = 0.91$) while attitudes related to society were characterized via six items (Cronbach's $\alpha = 0.93$); managers were asked how they believed implementing CSER procedures would affect society as a whole. A 5-point Likert scale was used for the responses, ranging from strongly disagree (1) to strongly agree (5).

Subjective norms utilized a 9-item subscale regarding the level of recognition that managers believed their CSER procedures would be supported from peers, consumers, and the governments. For example, their CSER activities would be recognized or supported by many important referents, such as society that had the high level of environmental concern, the governments that might offer incentives for promoting low emissions levels and smart-energy policies, and other tourism businesses that were involved in low-carbon businesses. These items were also measured by a 5-point Likert scale. The Cronbach's α was of 0.87 for these nine items, indicating a good internal consistency.

Perceived behavioral control was measured by four items (Cronbach's $\alpha = 0.89$), asking companies how likely or easily they felt to implement CSER practices, without some limits or barriers. A 5-point Likert scale was applied to measure these items.

Corporate character included the number of years the travel

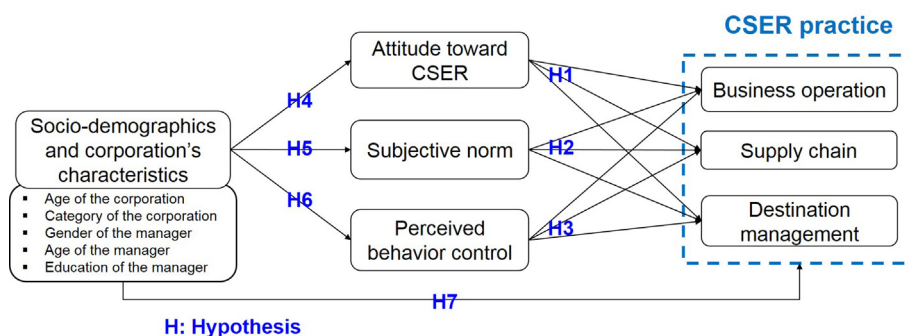


Fig. 1. Conceptual framework and research hypotheses.

agency was in operation, with responses including: less than 1 year (1), 1–3 years (2), 3–5 years (3), 5–10 years (4), and more than 10 years (5); also included was the category of the agency, such as: Consolidated (3), Class A (2), and Class B (1). Class A agencies are allowed by the government to achieve a relatively high level of business capital and operate both international and domestic tours, while Class B companies are involved only in domestic tourism. The size of the Taiwanese travel agency was measured by its category; Consolidated had the largest number of staff and amount of capital of the three, and then Classes A and B (in descending order).

Socio-demographics of the manager was evaluated by their gender (1 = male and 0 = female), age (1 = < 30, 2 = 31–40, 3 = 41–50, 4 = 51–60, and 5 = \geq 61), and education level (1 = less than high school, 2 = high school graduate, 3 = college graduate, 4 = post-graduate, 5 = PhD).

3.4. Statistical analysis

This study used Structural Equation Modeling (SEM) to explore the role of TPB theory in tour operators' implementation of CSER practices; the modeling program used was *Mplus* 7.0 (Muthén & Muthén, 2012). This model has the flexibility to test the theory-driven relationships among latent variables with several observed items (Buhi, Goodson, & Neilands, 2007). First, measurement models were developed to examine the factor structure of the latent variables. The Cronbach's α was also calculated to estimate the reliability of the items in each latent factor. A structure model was used to explore the relationships among the latent variables. Maximum Likelihood (ML) was employed as the default estimator in *Mplus*. Assessment of the model's fit was based on the Bentler comparative fit index (CFI), Tucker-Lewis index (TLI), and root mean square error of approximation (RMSEA) (Muthén & Muthén, 2012). The model was deemed acceptable when the RMSEA was less than 0.08 and CFI and TLI were over 0.90 (Muthén & Muthén, 2012).

4. Results

Table 1 shows the sample's characteristics. Of the 552 respondents, 52% reported that their corporations had been in operation for longer than 10 years; only 4.4% had been operating less than one year. Approximately 79% were Class A, which was close to the distribution in northern Taiwan (80%) in 2014. Of the total number of respondents, 66% were male and more than 84% had received an education beyond a college degree. About 48% of the respondents were younger than 40 years old.

With regards to the implementation of CSER practices, business operation (most of the items had mean values higher than 2, which was between “plan to implement soon” and “already implemented”) was higher than supply chain and destination management (many items had mean values lower than 2, between “plan to implement soon” and “no plan to implement in the near future”). This indicates an emphasis on the implementation of business operations by travel agencies.

Table 2 shows the descriptive statistics for each survey item and the coefficients of the internal consistency and standardized item-to-factor loadings. All of the factor loadings were higher than 0.40 and significant, representing a good internal consistency for each construct. The model fit indices indicated that the model fit the data well. The RMSEA was 0.046, which is lower than 0.05; both the CFI (0.905) and TLI (0.902) were higher than 0.90.

The TPB framework is employed to investigate how attitudes, subjective norms, and corporate managers' perceptions of behavioral control might affect their CSER performance. The structure

Table 1
Sample characteristics.

Characteristics	%
Age of the corporation	
Less than one year	4.4
1–3 years	14.9
3–5 years	14.0
5–10 years	14.7
More than 10 years	52.0
Category of the corporation	
Consolidated	4.8
Class A	79.2
Class B	16.0
Gender of the respondent	
Male	66.0
Female	34.0
Age of the respondent	
<30	23.5
31–40	24.6
41–50	31.4
51–60	17.5
>61	3.0
Education of the respondent	
Less than high school	0.0
High school graduate	15.8
College graduate	77.4
Post graduate	6.1
PhD degree	0.7

equation model (SEM) is utilized to test the research hypotheses (see Table 3). Generally, the results support the hypotheses (H1, H2, and H3), as well as the overall use of the TPB.

First, managers of tour companies who have strong attitudes regarding the benefits CSER practices bring to society (standardized $\beta = 0.284$, $p < 0.01$), subjective norms (standardized $\beta = 0.203$, $p < 0.01$), and PBC (standardized $\beta = 0.124$, $p < 0.05$) all led to better CSER performances related to business operations. Attitudes regarding society had the strongest relationship with CSER business operations. Second, tour operators were more likely to practice CSER supply-chain initiatives when their managers had stronger attitudes regarding the benefits CSER would offer to their companies (standardized $\beta = 0.299$, $p < 0.01$) and society (standardized $\beta = 0.112$, $p < 0.05$), higher subjective norms (standardized $\beta = 0.252$, $p < 0.01$), and greater PBC (standardized $\beta = 0.125$, $p < 0.01$). Attitudes concerning the company's benefits had the greatest effect on CSER supply-chain activities. Third, with regards to CSER destination management, administrative managers with stronger attitudes regarding benefits to their companies (standardized $\beta = 0.170$, $p < 0.05$) and society (standardized $\beta = 0.238$, $p < 0.01$), higher subjective norms (standardized $\beta = 0.223$, $p < 0.01$), and greater PBC (standardized $\beta = 0.371$, $p < 0.01$) tended to implement CSER practices relevant to destination management. PBC played the most critical role.

In addition, this study examined how socio-demographics and corporate actors influenced attitudes, subjective norms, and perceived behavioral controls. The longer the tour company was in business, the less likely the corporate manager was to have a positive attitude regarding the benefits that implementing CSER practices would have for society (standardized $\beta = -0.126$, $p < 0.05$) and the company (standardized $\beta = -0.127$, $p < 0.05$) (This supported H4). The tenure and size of the travel agency and gender, age, and education of its managers were not significantly related to subjective norms or perceived behavioral control (This did not support H5 and H6).

For associations among socio-demographics and corporate characteristics and the extent to which CSER practices were likely

Table 2

Descriptive statistics for survey items and confirmatory factor analysis (CFA).

	Mean	S.D.	Factor loading	S.E.	Literature
Attitudes toward CSER					
Attitudes for the company^a					
	Cronbach's		AVE = 0.53	CR = 0.90	Bansal and Roth (2000), Bohdanowicz and Zientara (2008), Cowper-Smith and de Grosbois (2011), Dodds and Kuehnell (2010), Gossling (2010), Lynes and Andrachuk (2008), McGehee, Wattanankamolchai, Perdue, and Calvert (2009), Mair and Jago (2010), Sheldon and Park (2011)
	$\alpha = 0.91$				
Promotes the reputation of the company	3.98	0.91	0.676**	0.027	
Enhances the competitiveness of the company	3.70	0.99	0.776**	0.021	
Saves operating costs	3.59	1.09	0.733**	0.023	
Helps recruit high-quality employees	3.35	1.02	0.800**	0.019	
Enhances the quality of the office work environment	3.99	0.90	0.677**	0.026	
Increases chances of winning environment-related awards	3.51	1.03	0.696**	0.026	
Helps sell the company's products	3.50	1.01	0.780**	0.021	
Avoids penalties related to the violation of environmental laws	3.59	1.02	0.684**	0.027	
Attitudes for society^a					
	Cronbach's		AVE = 0.67	CR = 0.92	
	$\alpha = 0.93$				
Good citizenship	4.09	0.90	0.740**	0.020	
A moral responsibility	3.93	0.95	0.701**	0.023	
Benefits society	4.28	0.86	0.818**	0.016	
Protects the natural environment	4.22	0.83	0.910**	0.011	
Mitigates the effects of global warming and climate change	4.27	0.88	0.859**	0.013	
Prevents natural hazards	4.27	0.87	0.858**	0.013	
Subjective norms^a					
	Cronbach's		AVE = 0.40	CR = 0.86	Ayuso (2006), Bansal and Roth (2000), Bohdanowicz and Zientara (2008), Bradford and Fraser (2008), Dodds and Kuehnell (2010), Kuo, Yeh, and Yu (2012), Lynes and Andrachuk (2008), Lynes and Dredge (2006), Mair and Jago (2010), Sheldon and Park (2011)
	$\alpha = 0.88$				
Society: due to strong environmental concerns	3.80	0.99	0.682**	0.028	
Consumers: due to emphasizing the quality of tourism products	3.87	0.92	0.627**	0.031	
Consumers: due to concerns about the corporation's contributions to society	3.63	0.95	0.717**	0.027	
Governments: due to implementing low-emission and energy-smart policies	3.48	1.07	0.715**	0.026	
Governments: due to encouraging low-emission and energy-smart practices	3.53	1.08	0.608**	0.033	
Society: due to the influences of media reports relevant to fraudulent food and other products	3.67	0.96	0.506**	0.037	
Society: due to be influence of media reports relevant to environmental damage at tourist destinations	3.75	0.92	0.560**	0.035	
Society: due to be influenced of media reports relevant to social issues at tourism destinations	3.64	0.93	0.623**	0.031	
Relevant businesses: due to be involved in low-carbon actions	3.32	1.04	0.645**	0.030	
Perceived behavioral control^a					
	Cronbach's		AVE = 0.69	CR = 0.90	Ayuso (2006), Bradford and Fraser (2008), Lynes and Andrachuk (2008), Lynes and Dredge (2006), Mair and Jago (2010), Sheldon and Park (2011)
	$\alpha = 0.90$				
Feels easy after long-term planning and preparation	2.10	0.92	0.860**	0.014	
Feels easy with sufficient knowledge and skill	2.07	0.90	0.928**	0.011	
Feels easy with sufficient funds	2.16	0.95	0.820**	0.017	
Feels easy after government incentives and support	1.92	0.95	0.706**	0.023	
CSER practices					
Business operation^b					
	Cronbach's		AVE = 0.28	CR = 0.69	Coles, Liasidou, and Shaw (2009), Cowper-Smith and de Grosbois (2011), De Grosbois (2012), Dodds and Kuehnell (2010), Font, Walmsley, Cogotti, McCombes, and Häusler (2012), Kasim (2006), Lee, Kwanglim, and Sharma (2013), Lynes and Andrachuk (2008), Lynes and Dredge (2006), McGehee et al. (2009), Van de Mosselaer et al. (2012), Sheldon and Park (2011), Whitfield and Dioko (2012)
	$\alpha = 0.71$				
Promotes staff awareness regarding GHG emissions and sustainable tourism	1.88	0.73	0.694**	0.029	
Education programs for reducing GHG emissions for the staff	2.19	0.75	0.577**	0.039	
Encourages staff carpooling or commuting with other green transportation	2.25	0.79	0.515**	0.035	
Trash recycling in the office	2.79	0.51	0.454**	0.039	
Implements low-emissions and smart-energy policies in the office	2.67	0.60	0.459**	0.039	
Releases an annual report about the industry's social and environmental responsibility	1.43	0.64	0.427**	0.042	
Supply chain^b					
	Cronbach's		AVE = 0.40	CR = 0.85	
	$\alpha = 0.87$				
Considers reduction of GHG emissions when arranging tours	1.85	0.76	0.796**	0.019	
Prioritizes local supplies when arranging tours	2.16	0.76	0.581**	0.031	
Collaborates with green suppliers when arranging tours	1.85	0.73	0.755**	0.022	
Offers low-carbon tour products when arranging tours	1.86	0.75	0.792**	0.020	
Encourages the use of green transportation when arranging tours	1.99	0.76	0.611**	0.029	
Includes nearby attractions in tours to reduce the length of commutes and GHG emissions	2.25	0.78	0.414**	0.037	
Prolongs stays in each attraction when arranging tours	2.20	0.79	0.486**	0.035	
Discloses how to reduce the CO ₂ emissions of tours	1.63	0.70	0.604**	0.029	
Discloses the amount of CO ₂ emissions of tours	1.55	0.67	0.559**	0.031	
Destination management^b					
	Cronbach's		AVE = 0.32	CR = 0.79	
	$\alpha = 0.82$				
Educates tourists on smart ways of packing luggage before tour	2.07	0.79	0.600**	0.032	
Reminds tourists to prioritize local supplies when shopping during tours	2.41	0.72	0.504**	0.038	
Educates tourists on how to reduce carbon emissions during tours	2.33	0.72	0.653**	0.030	
Encourages tourists to contribute to local environmental funds at destinations	1.62	0.72	0.526**	0.035	
Donates to conservation initiatives at destinations	1.50	0.65	0.471**	0.038	
Involved in GHG reduction programs at destinations	1.78	0.73	0.600**	0.033	
Uses local transportation to reduce carbon emissions during tours	2.30	0.75	0.565**	0.034	
Uses green transportation to connect attractions during tours	2.16	0.76	0.607**	0.032	

Note: ** $p < 0.01$; * $p < 0.05$ S.E.: Standard error S.D.: Standard deviation AVE: Average variance extracted CR: Composite reliability.^a Likert 5-point scale (1 = strongly disagree; 2 = somewhat disagree; 3 = neither agree nor disagree; 4 = somewhat agree; 5 = strongly agree).^b 3-point scale (1 = no plan to implement in the near future; 2 = plan to implement soon; 3 = already implemented).

Table 3
Results of structure equation model.

Predictor	Dependent variable	Standardized coefficients	S.E.	R ²
Attitudes toward CSER (for company)	Business operations	0.105	0.075	0.195
Attitudes toward CSER (for society)	Business operations	0.284**	0.066	
Subjective norms	Business operations	0.203**	0.069	
Perceived behavioral control	Business operations	0.124*	0.060	
Socio-demographics and corporation's characteristics				
Age of the corporation	Business operations	−0.164**	0.054	
Category of the corporation	Business operations	0.117*	0.052	
Gender of the manager	Business operations	−0.036	0.053	
Age of the manager	Business operations	0.087	0.055	
Education of the manager	Business operations	0.101	0.052	
Attitudes toward CSER (for company)	Supply chain	0.299**	0.059	0.228
Attitudes toward CSER (for society)	Supply chain	0.112*	0.054	
Subjective norms	Supply chain	0.252**	0.056	
Perceived behavioral control	Supply chain	0.125*	0.049	
Socio-demographics and corporation's characteristics				
Age of the corporation	Supply chain	−0.097*	0.044	
Category of the corporation	Supply chain	0.051	0.043	
Gender of the manager	Supply chain	−0.043	0.043	
Age of the manager	Supply chain	0.055	0.045	
Education of the manager	Supply chain	0.056	0.047	
Attitudes toward CSER (for company)	Destination management	0.170*	0.067	0.180
Attitudes toward CSER (for society)	Destination management	0.238**	0.059	
Subjective norms	Destination management	0.223**	0.061	
Perceived behavioral control	Destination management	0.371**	0.054	
Socio-demographics and corporation's characteristics				
Age of the corporation	Destination management	−0.108*	0.049	
Category of the corporation	Destination management	−0.067	0.047	
Gender of the manager	Destination management	−0.042	0.047	
Age of the manager	Destination management	0.076	0.050	
Education of the manager	Destination management	0.065	0.048	
Socio-demographics and corporation's characteristics				0.009
Age of the corporation	Attitudes toward CSER (for society)	−0.126*	0.039	
Category of the corporation	Attitudes toward CSER (for society)	−0.010	0.041	
Gender of the manager	Attitudes toward CSER (for society)	0.059	0.040	
Age of the manager	Attitudes toward CSER (for society)	0.038	0.043	
Education of the manger	Attitudes toward CSER (for society)	0.048	0.042	
Socio-demographics and corporation's characteristics				0.033
Age of the corporation	Attitudes toward CSER (for company)	−0.127*	0.047	
Category of the corporation	Attitudes toward CSER (for company)	0.081	0.045	
Gender of the manger	Attitudes toward CSER (for company)	0.063	0.045	
Age of the manager	Attitudes toward CSER (for company)	0.058	0.048	
Education of the manager	Attitudes toward CSER (for company)	0.065	0.046	
Socio-demographics and corporation's characteristics				0.016
Age of the corporation	Subjective norms	0.025	0.049	
Category of the corporation	Subjective norms	−0.029	0.047	
Gender of the respondent	Subjective norms	0.018	0.046	
Age of the respondent	Subjective norms	−0.009	0.050	
Education of the respondent	Subjective norms	0.005	0.048	
Socio-demographics and corporation's characteristics				0.006
Age of the corporation	Perceived behavioral control	−0.052	0.045	
Category of the corporation	Perceived behavioral control	0.043	0.044	
Gender of the respondent	Perceived behavioral control	0.048	0.043	
Age of the respondent	Perceived behavioral control	0.039	0.046	
Education of the respondent	Perceived behavioral control	0.042	0.045	

Model fit: Chi-Square = 2951.756; CFI = 0.905; TLI = 0.902; RMSEA = 0.046.

** $p < 0.01$; * $p < 0.05$.

S.E.: Standard error.

to be implemented, the larger the size of the tour company, the more likely they were to incorporate CSER practices into their business operations (standardized $\beta = 0.117$, $p < 0.05$). The longer the company had been in business, the less likely it was to establish CSER policies and practices in their business operations (standardized $\beta = -0.164$, $p < 0.01$), supply chain management (standardized $\beta = -0.097$, $p < 0.05$), and destination administration (standardized $\beta = -0.108$, $p < 0.05$) (This supported H7). However, the gender, age, and education level of the corporate manager were not significantly associated with the implementation of CSER practices.

5. Discussion and conclusion

The major contribution of this study is that it employed well-developed pro-social models to explain how attitudes, subjective norms, and the PBC of the administrative leaders influenced the CSER activities of tour companies. Particularly, the role of administrative managers has not been thoroughly examined in previous research. Different from past studies that applied TPB to explain an individual's sustainable behavior or rational choices, the extended TPB model in the current research included corporate characteristics in addition to managers' socio-demographics; thus, the CSER

practices derived from personal and social interests of corporations could be predicted effectively. The extended TPB framework was proven to be comprehensive and sufficient for explaining the sustainable business practices of tourism companies; this conclusion moves beyond the results in Bamberg and Möser, 2007, which justified TPB as useful for examining behaviors related to pro-social motivations. In addition, this work also contributes to CSER implementation through organizing a comprehensive framework to review tour operators' CSER performances. It focused on the reduction of GHG emissions in relatively finite and practical aspects: business operation, supply chain, and destination management. Tour operators, who are relatively infrequently studied in CSER research despite their importance in organizing tourism resources in sustainable ways, were identified as effective for leading environmentally and socially responsible actions through company leaders' attitudes, their influence on subjective norms, and their solutions to behavioral barriers. Therefore, the results add to the CSER and TPB literature, especially with regards to the factors driving CSER practices to reduce GHG emissions as seen from the perspective of the administrative manager. The suggestions proposed in this study will effectively guide tour operators toward sustainable low-emission goals, a particular focus of the Taiwanese government.

The current study found the key factors influencing company decisions regarding CSER practices to be administrative managers' attitudes, subjective norms, and TPB; it also confirmed the usefulness of applying the TPB framework (Ajzen, 1991) to investigations of corporate greening. The results were aligned with previous studies' findings related to the significance of these factors to pro-environmental actions (Han et al., 2010; Kaplan et al., 2015; Kim & Han, 2010). First, the results showed the vital importance of **attitudes** in affecting the implementation of CSER practices. The managers of tour businesses with strong attitudes about this topic were more likely to promote sustainable business strategies for reducing GHG emissions. Administrative managers' attitudes regarding the benefits to society and the company were the most important predictors of business operations and supply chain practices, respectively. A focus on the societal benefits had the second greatest influence on destination management practices. Therefore, the concept of benefiting society will effectively drive a corporation's sustainable actions. The association between the practices and their management's attitudes concerning good citizenship, social responsibility, and environmental stewardship also highlighted the usefulness of the stakeholder theory for investigating CSER (Falck & Heblich, 2007). Although sustainable tourism is in high demand and is key to reducing GHG emissions and promoting green suppliers such as green transportation, restaurants, and accommodations, green tourism operators might find it more difficult to offer low-cost options than does conventional mass tourism. The most import factor will be the manager's positive attitude toward self-interest, and specifically, economic benefits resulting from an improved reputation and level of competitiveness, as well as a decrease in operational costs.

Second, the current research supports the importance of **subjective norms** in three different categories of CSER practices, which especially highlights the robustness of TPB for explaining corporate sustainable action. The findings also show how likely the managers of tour companies are to follow tourism trends and government policies, and comply with the expectations of general customers. Early TPB research concluded that subjective norms are generally weak predictors of behavioral intentions and actions (Ajzen, 1991; Shepperd et al., 1988); conversely, in this research, businesses appeared inclined to both self and pro-social interests, and

intrinsically incorporated social pressure from consumers and business competitors into their operational intentions. Subjective norms functioned as the second determinants of tour operators' CSER practices regarding business operation and supply chain, respectively. The findings here also support the stakeholder theory employed in the CSER mechanism, which particularly emphasizes the central stakeholders' emphasis on corporations' responsibility to society and the environment.

Third, this research found that **PBC** was the central determinant of CSER-related destination management practices, but not of business operation and supply chain. Sustainable initiatives in destination management, such as involvement in local conservation programs, the dedication of tour time to educating tourists on GHG emissions, and the use of local and green transportation all used to be of little interest to tour operators (Van de Mosselaer et al., 2012). Administrative managers of tour companies who recognized that there were easy-to-perform sustainable practices supported by skillful and knowledgeable labor, funding, and government initiatives confirmed their intention to engage in destination-oriented actions. This verifies that the influence of PBC varies with the type of behavior and cultural and contextual factors (Quintal, Lee, & Soutar, 2010). Supply-side issues drive tour operators to focus on arranging and marketing their products; therefore, engaging in sustainable destination management requires efforts beyond basic business operation, such as tight collaboration with destination communities.

Finally, the age of the corporation was the most important element discouraging tour operators' CSER activities, while the individual background of the manager had no significant influence. Companies that had been in business for longer periods of time were less active in **business operation, supply chain, and destination management** practices designed to reduce GHG emissions. Managers of this type of corporation were less likely to perceive the benefits of the CSER practices to both society and their company, which may be attributable to the firm's culture. This also illustrates how integrating CSER practices into the policies of this type of older company might be challenging, even though the managers tended to be younger and have better educations (and thus would generally be more likely to update their operational skills and knowledge).

There are some practical implications of this as it relates to Taiwanese tour operators to implement the three-element CSER framework. First, program and management toolkits to enhance low-emissions CSER actions regarding business operation, green supply, and destination management should be prepared in order to improve business leaders' understanding of sustainable operations. Particularly, how these practices would benefit the company and society. Detailed guidebooks with examples of best practices could reinforce managers' positive attitudes and help them establish better CSER policies and practices (Van der Duim & Van Marwijk, 2006). Second, government support and incentives targeting the provision of relevant resources, including knowledge, skills, and long-term funding would be especially useful for encouraging tour operators' efforts in sustainable destination development (Frey & George, 2010). Building a partnership among tour operators, local governments, NGOs, and local communities would be particularly effective. For example, local authorities in the UK have policies regarding the reduction of GHG emissions, and collaborate with local business organizations to implement relevant initiatives (Bradford & Fraser, 2008). This approach would not only address certain PBC issues, but also gradually influence the overall attitude of tour operators toward CSER practices. Third, social pressure from important referents, such as consumers, the

general public, governments, and business competitors is one of the key factors in pushing tour operators to select green partners. Therefore, disclosure of product and service information and general consumer education are always needed and can be achieved by collaborating with NGOs and governments. Social and traditional mass media function as useful tools for accomplishing information transparency and enterprise green responsibility. Fourth, the general awareness of CSER activities should be enhanced, particularly for management-level staff at travel agencies with long operational histories. Managers from senior agencies are likely to become used to conventional means of operation and feel the pressure of tradition on their operational practices. Thus, these types of tourism businesses should be particularly targeted with training and education programs relevant to CSER concepts and implementation.

This study has several limitations that should be considered in future research. First, because of the cross-sectional design, we could not test the possibility of bi-directional associations over time. It is possible that attitudes toward CSER practices become more positive after the implementation of sustainable management. A longitudinal design might better explore these complex relationships and more adequately inform specific policies. Second, our research did not include the role of intention, which is a significant construct in the TPB for predicting behavior. Future studies should consider this dimension to test a more comprehensive TPB framework for CSER practices.

Nevertheless, this study demonstrated that TPB theory is sufficient to explain and illustrate the relationships among attitudes, subjective norms, perceived behavioral control, and social demographics from managers' perspectives and their companies' comprehensive CSER performances. In addition, incorporating business characteristics into the model proved vital to the prediction of CSER actions. In practice, government intervention and consumers insisting upon these "soft" sustainable measures may be the most effective in enhancing the development of sustainable tourism. A public-private partnership in tourism operation will secure valid policies and comprehensive program implementation targeting the employment of CSER practices.

Appendix A. Supplementary data

Supplementary data related to this article can be found at <http://dx.doi.org/10.1016/j.tourman.2017.07.013>.

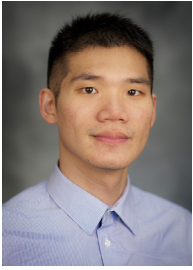
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